

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1-84. (Cancelled)

85. (New) A nucleic acid construct comprising:

(i) a chimeric promoter sequence which comprises:

(a) a hCMV immediate early promoter sequence;

(b) exon 1 and at least a part of exon 2 of the hCMV major immediate early gene; and

(c) a heterologous intron provided in place of the intron A region of the hCMV major immediate early gene;

(ii) a coding sequence in operable linkage with the chimeric promoter;

(iii) a non-translated leader sequence which is selected from the HBVpreS2 antigen sequence, HBV e-antigen sequence and HSV type 2gD antigen sequence and which is in operable linkage with the chimeric promoter; and

(iv) an enhancer sequence which is derived from a 3' untranslated region (UTR) of a HBsAg sequence or of a simian CMV immediate early gene sequence, which is in operable linkage with the chimeric promoter and which is downstream of the coding sequence.

86. (New) A nucleic acid construct according to claim 85 wherein one or more of the sequences is selected from the group consisting of:

- (i) the hCMV immediate early promoter sequence (a) which comprises SEQ ID No:1, a functional variant thereof with at least 80% homology or a functional fragment of either;
- (ii) exon sequence (b) which comprises SEQ ID No:2, a functional variant thereof with at least 80% homology or a functional fragment of either;
- (iii) the non-translated leader sequence selected from SEQ ID Nos: 5, SEQ ID No: 6, SEQ ID No:7, a functional variant with at least 80% homology to any one of SEQ ID Nos: 5 to 7 or a functional fragment of any one of SEQ ID Nos: 5 to 7 or of a said variant thereof;
- (iv) the enhancer sequence selected from SEQ ID No: 8, SEQ ID No: 9, a functional variant with at least 80% homology to SEQ ID No: 8 or SEQ ID No: 9 or a functional fragment of SEQ ID No: 8 or SEQ ID No: 9 or of a said variant thereof;
- (v) the heterologous intron selected from rat insulin gene intron A sequence, chicken keratin gene intron A sequence, chicken cardiac actin gene intron A sequence, a functional variant with at least 80% homology to a said intron A sequence and a functional fragment of a said intron A sequence or of a said functional variant thereof;
- (vi) the construct comprises a polyadenylation sequence; and
- (vii) the construct comprises a signal peptide.

87. (New) A nucleic acid construct according to claim 86 wherein one or more of the sequences is selected from the group consisting of:

- (i) the rat insulin gene intron A sequence which comprises SEQ ID No: 3, a functional variant thereof with at least 80% homology, or a functional fragment of either;
- (ii) the polyadenylation sequence which is a polyadenylation sequence of a gene selected from the rabbit β-globin gene, human papilloma virus (HPV) early or late gene, the HSV-2gB gene, a simian CMV immediate early gene and HSVgD late gene, a functional variant with at least 80% homology to any one of said sequences or a functional fragment of any one of said polyadenylation sequences or said function variants thereof;

(iii) the polyadenylation signal which is selected from the group consisting of SEQ ID No:10, SEQ ID No:11, SEQ ID No:12, SEQ ID No:13, a functional variant with at least 80% homology to any one of SEQ ID Nos: 10 to 13 or a functional fragment of any one of SEQ ID Nos: 10 to 13 or of a said variant thereof; and

(iv) the signal peptide which is selected from human tissue plasminogen activator signal peptide (hTPAAsp), aprotinin signal peptide, tobacco extensin signal peptide, chicken lysozyme signal peptide, a functional variant with at least 80% homology to any one of said sequences or a functional fragment of any of said sequence encoding the signal peptide or said functional variant thereof.

88. (New) A nucleic acid construct according to claim 85 wherein the construct is a plasmid vector.

89. (New) A nucleic acid construct according to claim 85 wherein the nucleic acid construct comprises DNA.

90. (New) A nucleic acid construct according to claim 85 wherein the coding sequence of the nucleic acid construct encodes an antigen.

91. (New) A nucleic acid construct according to claim 90 wherein the coding sequence encodes an antigen selected from the group consisting of a viral antigen, a bacterial antigen, a parasitic antigen, a fungal pathogen antigen, an allergy antigen, and a cancer antigen.

92. (New) A nucleic acid construct according to claim 91 wherein the viral antigen is selected from the group consisting of an HPV antigen, a HIV antigen, a HSV1 antigen, a HSV2 antigen, an influenza virus antigen, a Hepatitis A virus antigen and a Hepatitis B virus antigen.

93. (New) A nucleic acid construct according to claim 92 wherein the antigen is HBsAg.

94. (New) A nucleic acid construct according to claim 85 wherein the coding sequence encodes a polypeptide selected from the group consisting of an ADP ribosylating bacterial subunit A, an ADP ribosylating bacterial subunit B, both said subunits A and B and an active homolog of one or both said subunits A and B wherein each homolog has at least 80% homology to the respective said subunit or an active fragment of a said subunit or of a said active homolog thereof.

95. (New) A nucleic acid construct according to claim 94 wherein the bacterial subunit is selected from the group consisting of Cholera toxin subunit A, Cholera toxin subunit B, E.coli heat liable toxin subunit A, E.coli heat labile toxin subunit B, an active homolog having at least 80% homology to any one of said subunits or an active fragment of any one of said subunits or said active homologs.

96. (New) Coated particles, suitable for delivery from a particle-mediated delivery device, which particles comprise carrier particles coated with a nucleic acid construct according to claim 85.

97. (New) Coated particles according to claim 96, wherein the carrier particles are gold or tungsten.

98. (New) A dosage receptacle for a particle mediated delivery device comprising coated particles according to claim 97.

99. (New) A particle mediated delivery device loaded with coated particles according to claim 97.

100. (New) A particle mediated delivery device according to claim 99 which is a needleless syringe.

101. (New) A pharmaceutical preparation comprising a nucleic acid construct according to claim 85 and a pharmaceutically acceptable excipient.

102. (New) A pharmaceutical composition according to claim 101, wherein the composition is a vaccine composition and the coding sequence of the nucleic acid construct encodes an antigen.

103. (New) A pharmaceutical composition according to claim 102, wherein the composition further comprises an additional construct comprising a coding sequence which encodes an polypeptide selected from the group consisting of an ADP ribosylating bacterial subunit A, an ADP ribosylating bacterial subunit B subunit, both said subunits A and B and an active homolog of one or both said subunits A and B wherein each homolog has at least 80%

homology to the respective said subunit or an active fragment of a said subunit or of a said active homolog thereof.

104. (New) A method of obtaining expression in mammalian cells of a polypeptide of interest, which method comprises transferring into said cells a nucleic acid construct according to claim 85.

105. (New) A method according to claim 104 wherein:

- (i) the construct is delivered directly into a subject by injection, transdermal particle delivery, inhalation, topically, orally, intranasally or transmucosally; or
- (ii) the construct is delivered ex vivo into cells taken from a subject, and the cells are reintroduced into the subject.

106. (New) A method of nucleic acid immunisation comprising administering to a subject an effective amount of coated particles as defined in claim 96, wherein the construct coated on the particles comprise a coding sequence encoding an antigen in operable linkage with the chimeric promoter.

107. (New) A method according to claim 106, wherein the administration is via needless injection.

108. (New) A method according to claim 106, wherein the method is to immunise against a pathogen, allergy or cancer.

109. A nucleic acid construct comprising a chimeric promoter sequence and a cloning site for insertion of a coding sequence in operable linkage with the chimeric promoter, wherein the chimeric promoter sequence comprises:

- (a) a hCMV immediate early promoter sequence;
- (b) exon 1 and at least a part of exon 2 of the hCMV major immediate early gene; and
- (c) a heterologous intron provided in place of the intron A region of the hCMV major immediate early gene.

110. (New) Coated particles, suitable for delivery from a particle-mediated delivery device, which particles comprise carrier particles coated with a nucleic acid construct according to claim 109.

111. (New) A dosage receptacle for a particle mediated delivery device comprising coated particles according to claim 110.

112. (New) A particle mediated delivery device loaded with coated particles according to claim 110.

113. (New) A pharmaceutical preparation comprising a nucleic acid construct according to claim 109 and a pharmaceutically acceptable excipient.

114. (New) A method of obtaining expression in mammalian cells of a polypeptide of interest, which method comprises transferring into said cells a nucleic acid construct according to claim 109.

115. (New) A method of nucleic acid immunisation comprising administering to a subject an effective amount of coated particles as defined in claim 110, wherein the construct coated on the particles comprise a coding sequence encoding an antigen in operable linkage with the chimeric promoter.

116. (New) A purified isolated chimeric promoter sequence which comprises:

- (a) a hCMV immediate early promoter sequence;
- (b) exon 1 and at least a part of exon 2 of the hCMV major immediate early gene; and
- (c) a heterologous intron provided in place of the intron A region of the hCMV major immediate early gene.

117. (New) A nucleic acid construct comprising:

- (i) a promoter sequence;
- (ii) a non-translated leader sequence derived from HBV preS2 antigen sequence, HBV e-antigen sequence or HSV type 2 gD antigen sequence; and
- (iii) a coding sequence operably linked to (i) and (ii)

wherein the coding sequence is heterologous to the non-translated leader sequence.

118. (New) Coated particles, suitable for delivery from a particle-mediated delivery device, which particles comprise carrier particles coated with a nucleic acid construct according to claim 117.

119. (New) A dosage receptacle for a particle mediated delivery device comprising coated particles according to claim 118.

120. (New) A particle mediated delivery device loaded with coated particles according to claim 118.

121. (New) A pharmaceutical preparation comprising a nucleic acid construct according to claim 117 and a pharmaceutically acceptable excipient.

122. (New) A method of obtaining expression in mammalian cells of a polypeptide of interest, which method comprises transferring into said cells a nucleic acid construct according to claim 117.

123. (New) A method of nucleic acid immunisation comprising administering to a subject an effective amount of coated particles as defined in claim 118, wherein the construct coated on the particles comprise a coding sequence encoding an antigen in operable linkage with the chimeric promoter.

124. (New) A nucleic acid construct comprising:

- (i) a promoter sequence;
- (ii) a coding sequence operably linked to the promoter sequence (i); and
- (iii) an enhancer sequence 3' of and operably linked to the coding sequence (ii);

wherein the enhancer sequence (iii) is derived from a 3'UTR of an HBsAg sequence or a 3'UTR of a simian CMV immediate early gene sequence, and the coding sequence (ii) is heterologous to the 3' enhancer sequence.

125. (New) Coated particles, suitable for delivery from a particle-mediated delivery device, which particles comprise carrier particles coated with a nucleic acid construct according to claim 124.

126. (New) A dosage receptacle for a particle mediated delivery device comprising coated particles according to claim 125.

127. (New) A particle mediated delivery device loaded with coated particles according to claim 125.

128. (New) A pharmaceutical preparation comprising a nucleic acid construct according to claim 124 and a pharmaceutically acceptable excipient.

129. (New) A method of obtaining expression in mammalian cells of a polypeptide of interest, which method comprises transferring into said cells a nucleic acid construct according to claim 124.

130. (New) A method of nucleic acid immunisation comprising administering to a subject an effective amount of coated particles as defined in claim 125, wherein the construct coated on the particles comprise a coding sequence encoding an antigen in operable linkage with the chimeric promoter.